

Syllabus

ISE102: Computer Hardware Technology

Credit Hours: 4

Prerequisites: PRE051, if applicable

Course Description

This course is designed to prepare students for the CompTIA A+ Practical Application Certification examination (220-702). Students taking this course will develop the knowledge and hands-on skills necessary to install, troubleshoot, service, and support microcomputer hardware. At the conclusion of the course students will sit for the CompTIA A+ Practical Application examination.

Instructor Contact Information

Instructor Name	Gerard Arthus
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Instructor Phone	Home 574-217-8726 Cell 631-335-5250

Course Length

The college evaluates each course in terms of quarter hours of credit. One unit of credit is usually equivalent to a minimum of ten academic instruction hours of lecture and examination, twenty hours of skill development, or thirty hours of externship, or a combination of the three. An academic instructional hour is fifty minutes.

This class will meet for the equivalent of a minimum of 55 instructional hours or as otherwise scheduled by the college and at least in conformance with this minimum and the Syllabus. As specified by the Method of Instruction section of this Outline, the instructor will ensure that the total class sessions presented consist of a minimum of 27.5 direct faculty instruction hours and a maximum of 27.5 appropriate classroom activity hours.

All course offerings require outside preparation time, which is approximately two hours per lecture instructional hour and/or one hour per skill development instructional hour, depending on the background, interest, abilities, and motivation of the individual student.

Course Objectives

By the end of this course, you should be able to:

1. Identify all parts and components of a microcomputer.
2. Discuss the functions and interactions of all microcomputer subsystems.
3. Identify and troubleshoot common microcomputer hardware problems.
4. Select quality microcomputers and constituent components based on performance and cost.
5. Describe the components of a preventative maintenance plan.
6. Understand how to approach and solve a PC problem.
7. Install, replace, and upgrade microcomputer hardware components.
8. Install and troubleshoot microcomputer peripherals such as printers, scanners and modems.
9. Describe the different types of computer networks and the hardware devices used for each.
10. Understand the protocols and standards Windows uses for networking.
11. Successfully connect a microcomputer to a wired and wireless network.

Gradebook

A student's performance in this course will be evaluated using a variety of factors listed below. Instructors must use a minimum of three (**homework, tests, and a final exam are required**), and it is recommended that instructors use all five areas in your evaluation.

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The exact weight to be given to any particular area is determined by the instructor and will normally fall within the ranges listed below.

Area	Percentage for this Course	Suggested Range
Final Exam	25%	20 – 25%
Tests	30%	20 – 40%
Homework	15%	10 – 15%
Project/Research Paper	20%	20 – 25%
Class Participation	10%	10 – 15%
TOTAL	100%	

Letter Grade	Points	Explanation
A	94-100	Excellent
B	84-93	Above Average
C	74-83	Average
D	64-73	Below Average
F	63 & Below	Failure

Textbook & Instructional Material

National College A+ Bundle. This bundle contains:

Andrews, Jean. A+ Guide to Hardware: Managing, Maintaining and Troubleshooting: 6th ed. w/CourseMate.
Boston: Cengage, 2014.

Certificate: Prometric A+ Exam

LabSim 220-702 (2009) A+ Practical Application, TestOut Corporation

The instructor might utilize additional instructional materials as provided by the publisher.

Course Outline

Term: 137

Class Date: <u>Week 1 - 07 July 2013</u> Chapter 1: <i>First Look at Computer Parts and Tools</i>	Homework Due Date: <u>By the end of the next week</u>
In Class Activities	Homework

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<u>Do Homework for this week as listed on the Course Web-site.</u>	<u>Do all of the projects in this weeks chapter</u> <u>Do the quiz and the discussion forum posted on the Course Web-site for this week.</u>
Class Date: <u>Week 2 – 15 July 2013</u> Chapter 2: <i>Working Inside a Computer</i>	Homework Due Date: <u>By the end of the next week</u>
In Class Activities	Homework
<u>Do Homework for this week as listed on the Course Web-site.</u>	<u>Do all of the projects in this weeks chapter</u> <u>Do the quiz and the discussion forum posted on the Course Web-site for this week.</u>
Class Date: <u>Week 3 - 22 July 2013</u> Chapter 3: <i>All About Motherboards</i>	Homework Due Date: <u>By the end of the next week</u>
In Class Activities	Homework
<u>Do Homework for this week as listed on the Course Web-site.</u>	<u>Do all of the projects in this weeks chapter</u> <u>Do the quiz and the discussion forum posted on the Course Web-site for this week.</u>
Class Date: <u>Week 4 - 29 July 2013</u> Chapter 4: <i>Supporting Processors and Upgrading Memory</i>	Homework Due Date: <u>By the end of the next week</u>
In Class Activities	Homework

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<u>Do Homework for this week as listed on the Course Web-site.</u>	<u>Do all of the projects in this weeks chapter</u> <u>Do the quiz and the discussion forum posted on the Course Web-site for this week.</u>
Class Date: <u>Week 5 – 05 August 2013</u> Chapter 5: <i>Supporting Hard Drives</i>	Homework Due Date: <u>By the end of the next week</u>
In Class Activities	Homework
<u>Do Homework for this week as listed on the Course Web-site.</u>	<u>Do all of the projects in this weeks chapter</u> <u>Do the quiz and the discussion forum posted on the Course Web-site for this week.</u>
Class Date: <u>Week 6 – 12 August 2013</u> Chapter 6: <i>Supporting I/O and Storage Devices</i>	Homework Due Date: <u>By the end of the next week</u>
In Class Activities	Homework
<u>Do Homework for this week as listed on the Course Web-site.</u>	<u>Do all of the projects in this weeks chapter</u> <u>Do the quiz and the discussion forum posted on the Course Web-site for this week.</u>
Class Date: <u>Week 7 – 19 August 2013</u> Chapter 7: <i>Satisfying Customer Needs</i>	Homework Due Date: <u>By the end of the next week</u>
In Class Activities	Homework

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<u>Do Homework for this week as listed on the Course Web-site.</u>	<u>Do all of the projects in this weeks chapter</u> <u>Do the quiz and the discussion forum posted on the Course Web-site for this week.</u>
Class Date: <u>Week 8 – 26 August 2013</u> Chapter 8: <i>Troubleshooting Hardware Problems</i>	Homework Due Date: <u>By the end of the next week</u>
In Class Activities	Homework
<u>Do Homework for this week as listed on the Course Web-site.</u>	<u>Do all of the projects in this weeks chapter</u> <u>Do the quiz and the discussion forum posted on the Course Web-site for this week.</u>
Class Date: <u>Week 8 – 26 August 2013</u> Chapter 9: <i>Connecting to and Setting Up a Network</i>	Homework Due Date: <u>By the end of the next week</u>
In Class Activities	Homework
<u>Do Homework for this week as listed on the Course Web-site.</u>	<u>Do all of the projects in this weeks chapter</u> <u>Do the quiz and the discussion forum posted on the Course Web-site for this week.</u>
Class Date: <u>Week 9 – 02 September 2013</u> Chapter 10: <i>Networking Types, Devices, and Cabling</i>	Homework Due Date: <u>By the end of the next week</u>

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In Class Activities	Homework
<u>Do Homework for this week as listed on the Course Web-site.</u>	<u>Do all of the projects in this weeks chapter</u> <u>Do the quiz and the discussion forum posted on the Course Web-site for this week.</u>
Class Date: <u>Week 9 – 02 September 2013</u> Chapter 11: <i>Supporting Notebooks</i>	Homework Due Date: <u>By the end of the next week</u>
In Class Activities	Homework
<u>Do Homework for this week as listed on the Course Web-site.</u>	<u>Do all of the projects in this weeks chapter</u> <u>Do the quiz and the discussion forum posted on the Course Web-site for this week.</u>
Class Date: <u>Week 9 – 02 September 2013</u> Chapter 12: <i>Supporting Printers</i>	Homework Due Date: <u>By the end of the next week</u>
In Class Activities	Homework
<u>Do Homework for this week as listed on the Course Web-site.</u>	<u>Do all of the projects in this weeks chapter</u> <u>Do the quiz and the discussion forum posted on the Course Web-site for this week.</u>

This course has an in-class final exam. Final exam date: 09 September 2013

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Additional Final Exam Information:

Method of Instruction

Instructional techniques must be appropriate, and at a collegiate level, to the specific goals and objectives cited above. Students and instructors must have a clear understanding of the goals and time requirements of this course, the nature of the course context, and method of evaluation.

This course has two distinct but related instructional phases. The first component constitutes a minimum of 27.5 direct faculty instruction hours. This component is the lecture series and provides instruction in theory, principles or practices of the course. The second component constitutes a maximum of 27.5 appropriate classroom activity hours. This component is the skill development phase of the course and provides students the opportunity to apply knowledge gained in the lecture series. Method of instruction must fulfill the intended learner outcomes and competencies stated in the course goals and objectives and are appropriate to the capabilities of the students. For career oriented courses, the instructor must demonstrate that an effective relationship exists between curricular content and current practices in the field.

Additional Class Notes

Go to <http://www.openeducation.org/moodle> to use the Web-Assisted site for this course. Quizzes and discussion forums will be completed on-line at this site. This site will have a detailed explanation of all of the course requirements, materials, readings, videos.